REMARKS

By the present amendment independent claims 1 and 10 have been amended and claims 9 and 17 have been cancelled. Claims 1-8 and 10-16 remain in the application.

The Examiner rejected claims 1, 2, 4, 6, 7, 9-11, 14, 15, and 17 under 35 U.S.C. §102(e) based on Fuller et al. (US 6,743,468). Rejection of a claim under 35 U.S.C. §102(e) requires that each and every limitation of the rejected claim be found in the cited reference. If even a single limitation is not found in the cited reference then the rejection is improper and must be withdrawn.

By the present amendment claim 1 requires "providing a kinetically sprayed surface having a defect in the surface, said defect caused by said kinetic spraying, applying a repair coating to the defect by thermally spraying a molten material on the defect by a thermal spray process selected from the group consisting of a High Velocity Oxy-Fuel combustion thermal spray process, a wire arc thermal spray process, an air plasma thermal spray process, a vacuum plasma thermal spray process, a flame spray thermal process, or a radio frequency plasma thermal spray process thereby, filling the defect and repairing the defect". This is unlike the process disclosed in the cited reference. Fuller et al. teaches using a kinetic spray supersonic nozzle and a high capacity heater to oscillate the temperature thereby permitting both kinetic spraying and a thermal plasma spray process using the same kinetic spray nozzle and system. The disclosure of Fuller et al. and the system disclosed therein can not be used for any other thermal spray process. None of the specifically recited thermal spray processes of a High Velocity Oxy-Fuel combustion thermal spray process, a wire arc thermal spray process, an air plasma thermal spray process, a vacuum plasma thermal spray process, a flame spray thermal process, or a radio frequency plasma thermal spray process are possible using the system disclosed in Fuller et al. All of these thermal spray processes require specific thermal spraying equipment other than that disclosed in Fuller et al. Because claim 1 includes limitations not found in Fuller et al. the rejection of claim 1, and the claims that depend therefrom, under 35 U.S.C. §102(e) is improper and must be withdrawn.

By the present amendment claim 10 requires providing a kinetically sprayed surface having a defect in the surface with a defect caused by the kinetic spraying, and "applying a repair coating to the defect by thermally spraying a molten material on the defect by a process selected from the group consisting of a High Velocity Oxy-Fuel combustion thermal spray process, a wire arc thermal spray process, an air plasma thermal spray process, a vacuum plasma thermal spray process, a flame spray thermal process, or a radio frequency plasma thermal spray process thereby filling the defect and repairing the defect". This is unlike the process disclosed in the cited reference. Fuller et al. teaches using a kinetic spray supersonic nozzle and a high capacity heater to oscillate the temperature thereby permitting both kinetic spraying and a thermal plasma spray process using the same kinetic spray nozzle and system. The disclosure of Fuller et al. and the system disclosed therein can not be used for any other thermal spray process. None of the specifically recited thermal spray processes of a High Velocity Oxy-Fuel combustion thermal spray process, a wire arc thermal spray process, an air plasma thermal spray process, a vacuum plasma thermal spray process, a flame spray thermal process, or a radio frequency plasma thermal spray process are possible using the system disclosed in Fuller et al. All of these thermal spray processes require specific thermal spraying equipment other than that disclosed in Fuller et al. Because claim

10 includes limitations not found in Fuller et al. the rejection of claim 10, and the claims that depend therefrom, under 35 U.S.C. §102(e) is improper and must be withdrawn.

The Examiner rejected claims 1, 2 and 7-9 under 35 U.S.C. §102(b) based on Brogan (US 2002/-110682). Rejection of a claim under 35 U.S.C. §102(b) requires that each and every limitation of the rejected claim be found in the cited reference if even a single limitation is not found in the reference then the rejection is improper and must be withdrawn.

As a first matter the Examiner points to [0029], and [0069]-[0070] of Brogan to suggest that the reference teaches a "cold gas dynamic spray" method and suggests that this is the same as the kinetic spray of the present invention. A patentee is allowed to be his own lexicographer; however, any use of a term in other than the ordinary meaning must be clearly explained. The Examiner is directed to paragraphs [0029], [0030], [0035], [0038] of Brogan wherein it is made clear that any process used in Brogan must include heating the mixture sufficiently to soften the polymer or organic material so it forms a coalesced surface of polymer. In the present invention it is made clear that a kinetic spray process as the term is used in the present invention never involves thermal softening of any sprayed particles. The Examiner is directed to paragraphs [0003], [0006], [0016], and [0022] of the present application. Never does the kinetic spray process melt or soften a sprayed particle. Thus, the described "cold gas dynamic spray' of Brogan is not the same as the kinetic spray as described in the present invention. Claim 1 also requires that the defect in the kinetically sprayed surface be a result of the kinetic spray. In Brogan the only defects discussed are from wear or damage after the surface has been sprayed. See Brogan paragraphs [0069] and [0070]. This is unlike the limitation found in claim 1. Thus, because claim 1 includes limitations not found in the cited reference the rejection of claim 1, and those depending from it, based on Brogan is improper and must be withdrawn.

The Examiner rejected claims 3, 5, 12, and 13 under 35 U.S.C. §103 based on Fuller et al. Rejection of a claim under 35 U.S.C. §103 based on a single reference requires that the Examiner must point to a teaching, suggestion, or motivation found within the reference itself that would lead one of ordinary skill in the art to modify the teachings of the reference thereby making the invention obvious. Claims 1 and 10, which the rejected claims depend from, each require that the thermal spray process be selected from the group consisting of a High Velocity Oxy-Fuel combustion thermal spray process, a wire arc thermal spray process, an air plasma thermal spray process, a vacuum plasma thermal spray process, a flame spray thermal process, or a radio frequency plasma thermal spray process. None of these processes are taught by or obvious based on Fuller et al. Fuller et al. specifically teaches a modified kinetic spray system incorporating a high capacity heater that allows the kinetic spray system to oscillate between kinetic spraying and plasma thermal spraying. The system disclosed in Fuller et al., however, does not teach or make obvious the thermal spray processes claimed in claims 1 and 10 of the present invention. In addition, there is no way to modify the system as disclosed in Fuller et al. to allow it to thermally spray by any of the processes claimed in claims 1 or 10. For the reasons stated above the rejection of claims 3, 5, 12, and 13 under 35 U.S.C. §103 based on Fuller et al is improper and must be withdrawn.

The Examiner rejected claims 8 and 16 under 35 U.S.C. §103 based on Fuller et al. and Van Steenkiste et al. (US 6,139,913). As discussed above Fuller et al. teaches use of a kinetic spray system modified to include an oscillating high capacity heater to allow kinetic spraying and plasma thermal spraying. Fuller et al. does not teach, however, use of a thermal spray process selected from the group consisting of a High Velocity Oxy-Fuel combustion thermal spray process, a wire arc thermal spray process, an air plasma thermal spray process, a vacuum plasma thermal spray process, a flame spray thermal process, or a radio frequency plasma thermal spray process. Nor is the Fuller et al. system capable of modification to allow these thermal spray processes. This deficiency of Fuller et al. is not supplemented by Van Steenkiste et al. Van Steenkiste et al. only teaches a conventional kinetic spray process. Thus, the combination of Fuller et al. and Van Steenkiste et al. does not make claim 8 or claim 16 obvious, thus, the rejection of these claims under 35 U.S.C. §103 based on Fuller et al. and Van Steenkiste et al. is improper and must be withdrawn.

The Examiner rejected claims 3, 4, 6, 10-12, and 14-16 under 35 U.S.C. §103 based on Brogan. As discussed above independent claims 1 and 10 require providing a kinetically sprayed surface having a defect caused by the kinetic spray process and then repairing the defect using one of a specific set of thermal spray process. Also as discussed Brogan does not teach a kinetic spray process as required by the present invention. In Brogan there is no teaching of such defects resulting from the kinetic spraying process. Brogan only discusses damage caused by wear or other post application damage. Thus, Brogan does not teach or make obvious each and every limitation of claims 1 or 10, thus the rejection of these claims and the claims depending therefrom under 35 U.S.C. §103 based on Brogan is improper and must be withdrawn.

Applicant's attorney respectfully submits that the claims as amended are now in condition for allowance and respectfully requests such allowance.

Respectfully submitted,

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May 4, 2005
Date

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I hereby certify that this Amendment is being deposited with the United States Postal Service as Express Mail, Mail Label No.EV612877335 **US**, postage prepaid, in an envelope addressed to, Mail Stop: Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on **May 4, 2005**.

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